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Think-Alouds : thinking beyond the text to increase reading comprehension

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Think-Alouds : thinking beyond the text to increase reading comprehension

Abstract

This literature review focuses on how the Think-Aloud strategy can be implemented in order to help readers comprehend text. This strategy is one that will allow all readers to visualize and verbalize what is taking place during the decoding of the text. Teachers need to provide direct instruction in forms of modeling and scaffolding when implementing the Think-Aloud strategy. This helps to aid in the students' ability to effectively gain a full understanding of what the strategy looks like. In the end, it is expected that the students will begin to utilize the Think-Aloud strategy automatically when comprehending any type of text.

THINK-ALOUDS: THINKING BEYOND THE TEXT TO INCREASE
READING COMPREHENSION

A Graduate Literature Review

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Division of Elementary Literacy Education

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By

Jennifer Marie Lee

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Titled: Think-Alouds: Thinking Beyond the Text To Increase Reading Comprehension

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ABSTRACT

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THINK ALOUDS: THINKING BEYOND THE TEXT TO INCREASE READING COMPREHENSION

Introduction

Comprehension is an important and complex component of reading. To comprehend means to construct meaning by interacting with the text (Wilhelm, 2002). One needs to be able to read the text as well as comprehend the elements that are being explored through the reading process. The Think-Aloud technique is a strategy used to aide in the comprehension process that allows the reader to make their inner-self dialogue about meaning heard (Wilhelm, 2002 & Wade et. al, 1999). An obstacle that is often faced by many teachers is getting their students to verbalize what he/she is thinking while reading. For teachers, it is tough to seek out a means of providing students with an accurate model of what thinking aloud should look like. Therefore, it is easier to throw these types of techniques or strategies that require such a model by the waste side and trudge through the same routine on a daily cycle without the feeling of success. In the following literature review analysis, there is much discussion involving student success where Think-Alouds are concerned and how teachers are to educate themselves about the process of thinking aloud before educating their students.

Rationale

This topic was chosen because reading comprehension is a complex process that makes it difficult for children to construct meaning from what is read. Implementing the think-aloud strategy into all aspects of the curriculum will allow teachers to help children understand a variety of genres and texts that may not have happened otherwise.

Teachers need to be given the opportunity to research and learn how to teach this strategy effectively. The use of scaffolding and modeling will help to encourage that children will be able to use this technique as well when they read to help aide in comprehension.

Research has shown that implementing the Think-Aloud strategy into the classroom to increase reading comprehension is an effective alternative to current comprehension models. Being a kindergarten teacher, I have seen first hand students putting forth a lot of effort to decode text, but failed to remember to make meaning. Because of this, it was my expectation through the information gathered that I would be able to better implement the Think-Aloud strategy into my classroom to create well-rounded successful readers and promote social interaction between students.

Purpose of Review

Current models of comprehension instruction suggest that instruction should begin with teacher modeling of effective strategies (Maria & Hathaway, 1993). Reading comprehension is something that always takes a seat on the back burner because the focus is always on decoding the text and giving children strategies to decode. The Think-Aloud technique will provide readers with the opportunity to better use comprehension strategies to gather meaning from the text.

Importance of Review

As the pressures of No Child Left Behind keep adding up, so do the children that have floated onto grade after grade based solely upon reading fluency. Schools are taking necessary measures to ensure that all five components of NCLB are being met, one of which is comprehension. In doing so, they are seeking out research-based

strategies to improve comprehension, one being the Think-Aloud strategy. The Think-Aloud strategy will be discussed in great detail in this literature review. Teachers, administrators, and other educational professionals will all be able to gain some vital information about the Think-Aloud strategy and how to utilize it effectively in the classroom to increase reading comprehension with all types of readers.

After reading through the research, I came upon terms that a reader would need to know in order to understand the material presented in this literature review. First and foremost the reader must know what a Think-Aloud is and what its' use is. A *Think-Aloud* is a technique in which students verbalize their thoughts as they read and bring into the open the strategies they are using to understand a text (Oster, 2001). In the end, it is hoped that all readers will take ownership of the strategy to increase reading comprehension.

Terminology

When discussing Think-Alouds, the term *metacognition* goes hand-in-hand because utilizing this technique means being able to think about one's own thinking. The metacognitive awareness is a crucial component of learning because it enables learners to assess their level of comprehension (Oster, 2001).

Inferencing is a skill that allows readers to go beyond the directly stated story facts to elaborate on facts and arrive at conclusions. It is an essential component in understanding all types of text. Inferencing help students to visualize the think-aloud process and it is recommended that inference skills be taught while think-aloud for maximum comprehension benefits. (Laing & Kamhi, 2002)

Research Questions

The primary research question guiding this review was: What is the impact of the Think-Aloud strategy on reading comprehension? In kindergarten children are at a very impressionable period of development in their lives. It is during this portion of development where children's minds soak up knowledge like a sponge. So, it is during the early years that teachers should start the foundation from which children will learn the value in reading and comprehension. In the end, it is hoped that students will continue this behavior and build upon the foundation that is already there to become stronger readers. There were five secondary questions that stemmed from the primary question, and they are as follows:

1. What role do teachers play in implementing the Think-Aloud technique into the classroom?
2. How can all readers benefit from the Think-Aloud procedure?
3. How does inferencing work with the Think-Aloud strategy to help students comprehend expository and narrative texts?
4. How can the Think-Aloud procedure be implemented effectively for maximum student comprehension?
5. How can Think-Alouds and social interaction compliment each other?

Centering on these questions, the literature analysis began to unfold.

Implementing the Think-Aloud technique in the classroom has many researched benefits. The most important benefit being an increase in reading comprehension, which is what the literature review is centered around. It is important to discuss the role of the teacher because it is through the teacher that students will become more knowledgeable and

flexible with the Think-Aloud strategy in their own reading. After discussing the role of the teacher, it lead to the idea that the Think-Aloud technique can benefit all readers and not just one type of reader. It is important to consider all readers when implementing a new reading technique because teachers want each reader to grow. After discussing the benefits the Think-Aloud technique has on all readers, it is critical then to talk about what reading materials would foster such benefits in all readers. When combined with the Think-Aloud strategy, the right reading materials can provide maximum reading comprehension growth in each student.

After reviewing materials teachers need to implement the strategy effectively so that all students can benefit from it and grow as readers. For teachers, it is vital to integrate the Think-Aloud technique in all content areas so that students will become flexible with the strategy. The Think-Aloud strategy is not thought of as a social interaction amongst students, but research done by Kucan & Beck (1997) showed how increased social interaction could occur when implemented into the curriculum. From all of these key areas of the literature analysis it is hoped that teachers can find benefits from which they can implement the Think-Aloud strategy to help increase reading comprehension.

Methodology

This analysis of literature focused on the use of the Think-Aloud strategy to increase reading comprehension. In this section, the following key areas will be addressed: the method used to locate sources, how sources were selected, the analyzing of sources, and the criteria used to include literature. All of these areas were important components to complete the structure of the literature analysis and were utilized to make the analysis useful and meaningful.

Method to Locate Sources

In searching for sources discussing the Think-Aloud strategy, I utilized sources based on their accessibility and availability to me. When looking for these resources, I had to keep in mind that I needed ones that contained current research and primary sources. These two components would ensure that I would be able to locate studies that contained solid evidence of Think-Alouds increasing comprehension.

Sources were gathered from a variety of resources, including the University of Northern Iowa's Rod Library and ERIC databases. The search terms consisted of 'Think-Alouds', 'comprehension', and 'elementary'. As I was searching, I noticed that the word 'elementary' really hindered my search because many of the articles did not reference elementary students specifically. Many of the journal articles and a book used on Think-Alouds were made available to me through assistance from Monticello Community School District's Grant Wood facilitator, Diane Peters.

I made reference to Jeffery Wilhelm's *Improving Comprehension with Think-Aloud Strategies* (Wilhelm, 2001). This book was the focus of a book study that Diane

Peters facilitated for teachers that wanted to gain more knowledge in the Think-Aloud strategy. The Think-Aloud strategy was the main focus for the Monticello Community School District's elementary schools professional development and IDCP for the past two years. Diane was also very helpful in pointing me in the right direction of what key words I wanted to type into a search to get maximum results.

Method to Select Sources

Sources were selected based on the information that was provided and if this information was valid and coming from a reliable source. I also looked at the amount of information included in the articles and if it was pertinent to the topic of Think-Alouds increasing reading comprehension. In establishing this, I had to ask myself if the findings that were gathered and suggested in the articles deemed to be valid, reliable, primary sources, and consistent with other research findings. It was a question of whether or not this strategy was one that I could implement into my classroom successfully and easily without rippling the other curriculum that was set in place. Would this strategy increase reading comprehension for elementary students?

As I was selecting the sources I also found myself searching to find how the research was presented and if the strategy was defended in such a way that it would persuade me to make use of it in my own classroom. Because of this, I really had to think about whether or not the research findings were rational or skewed and whether the author or authors of the articles were reliable, meaning did I see their names in other research that I had found throughout my search.

Procedures to Analyze Sources

In reading the book as mentioned above and analyzing the research presented in the articles retrieved from the databases as listed previously, I constantly revisited the questions that I had formerly proposed. These questions guided me through the research and helped me to better understand what I was reading and what I was searching for. Ultimately, I was probing for information that would be relevant to my own teaching, learning, and understanding. If the readings did not help me to better comprehend the think-aloud strategy and the skills needed to implement the reading technique then I discarded the article.

It was very helpful for me to highlight information that would be relevant to my literature review analysis. I highlighted new information that explained the Think-Aloud strategy steps and the result of utilizing such a tool. In addition to this, I also highlighted other authors from the research found that I could search for to find other resources that were highly recommended. In my research notebook, I wrote down questions that came to mind after reading and also other authors that I wanted to search after analyzing bibliographies.

Criteria to Include Literature

As I read the research that I had selected, I looked to find if the articles had things in common with one another. I cross-referenced my readings to see if there were particular terms or findings that were mentioned in several places. For example, I found the terms 'modeling' and 'scaffolding' in a variety of articles. Jeffery Wilhelm was an author that frequently popped up when performing searches for primary sources. As for common themes, I read a variety of sources, but I wanted to see if multiple themes

developed just to make it known that it was an important component of my research. For example, several of the research studies suggested that teacher modeling of the think-aloud strategy would assist in students' ability to visualize the process and in turn would allow them to perform the strategy on their own while reading text. I knew that this was a critical step in teaching students how to own the strategy to increase their reading comprehension.

Results

After reading and analyzing the research that was presented about Think-Alouds, it was important to discuss the following: the role of the teacher, the role of the student, the selection of reading materials, the implementation of the Think-Aloud procedure, social interaction amongst students, and limitations that the research discussed. These factors work together to play a key role in effectively utilizing the think-aloud procedure to comprehend text so it is vital to discuss them into depth to fully understand each element.

For many years reading comprehension has been thought of as a complex process during which good readers flexibly apply a variety of appropriate comprehension strategies to the text they are reading (Smith, 2006). This still holds true today, but there is more to the process that makes it even more complex than originally thought. What are children thinking when they are reading and how can educators effectively understand what is being processed while reading? There are a variety of reading comprehension strategies that good readers utilize when reading, but the Think-Aloud strategy allows educators to get inside the head of each student and understand how it all comes together for each of them. It is a well-known fact that not all learners can learn in the same capacity or mode, but the Think-Aloud process is one that benefits all of its learners.

Children that have trouble reading have difficulty with comprehension processes as well (Laing & Kamhi, 2002). Comprehension difficulties are a result of decoding and word inaccurate recognition processes (Laing & Kamhi, 2002). To fully understand the root of the problem, teachers must entirely understand what is taking place in the reader's

mind. The Think-Aloud is one strategy that can help struggling readers improve fluency and comprehension (Migayanka, Policastro, & Lui, 2005). It is the best available means of examining what goes on in a learner's mind as they perform a given task (Hu & Zhang, 2005). In the learner's mind, as Think-Alouds are utilized, there will be more of a natural periodic stop where the readers will reflect on how a text is being processed and understood. This natural periodic stop is a result of the Think-Aloud tool that will also allow the reader to relate orally what reading strategies are being engaged (Baumann, Jones, & Seifert-Kessell, 1993).

In order to fully understand the role that the Think-Aloud strategy plays in reading comprehension, we need to consider the function that the teacher serves in aiding in the process, bridging the gap from phonemic awareness and knowledge of sight words to adequate fluency and comprehension skills, the use of a variety of texts, and how to educate parents in helping children to utilize the strategy as well. When thinking-aloud, children will be better able to make those invisible mental processes visible to them. (Wilhelm, 2001) Those parents whom read to their children on a regular basis, naturally think-aloud most of the time, but may not be aware of the powerful influence it has on their child's reading development. It is parents that have the first opportunity to expose their children to the Think-Aloud process. If parents do not read with their children nor model thinking aloud skills then how and where will they be introduced to the Think-Aloud strategy?

What role do teachers play in implementing the Think-Aloud technique into the classroom?

“The teacher must first generously model how to work through a task, highlighting and naming how a particular strategy or strategies can be used to successfully complete it” (Hillman, 2003, pp. 6). Current models of comprehension instruction suggest that instruction should begin with teacher modeling of effective strategies and tools that children can then begin to utilize in their everyday lives. It is in this statement that brings to life those students that the processes of comprehension may have become so automated that they are inaccessible to consciousness. Teachers in the primary grades can begin to build the foundation for reading comprehension. Because primary grade educators build the foundation, they need to ask for more information about how to perform highly effective Think-Alouds (Block & Israel, 2004). Emphasizing text comprehension within the Think-Aloud procedure from the beginning rather than waiting until students have mastered reading will be very beneficial for all readers. (Wilhelm, 2002)

Instructional techniques develop over time with lots of influence from teachers, other students, theories, and research (Walker, 2005). Teachers need to model for and scaffold students the think-aloud strategy. First, the teacher models comprehension-monitoring skills while reading aloud a piece of text. Second, the teacher elicits student participation in the same strategic activities. Finally, students internalize the strategies as they read on their own. (Kucan & Beck, 1997) Instructing students in thinking aloud through modeling and practice has been suggested as an effective classroom strategy for increasing students’ metacognition and comprehension (Caldwell & Leslie, 2003).

Teachers may find it hard to achieve this awareness when reading texts that are easy to them, but difficult for their students. Because of this, teachers need to recognize their own comprehension strategies as they model their thinking aloud for students and to put value in collaborative effort. (Maria & Hathaway, 1993) As the teacher is incorporating this strategy into the lesson, he or she should think-aloud using self-directed questions such as the following (Walker, 2005, pp. 7):

1. What must I do? I must predict what might happen. I predict...
2. What's my plan? I must use the text and what I know.
3. Does that make sense? Oops! It doesn't. I can change my prediction.
4. Did it fit? Yes, I knew it! That sure fits. I am on the right track. (p. 689)

Additionally it is suggested that students follow this self-directed model to apply to their own reading (Walker, 2005).

A study conducted by Baumann, Jones, & Seifert-Kessell (1993) revealed that the Think-Aloud instruction was highly effective in helping students acquire a broad range of strategies to enhance their understanding of text and to cope with comprehension difficulties. For example, Tom, a Think-Aloud group student, was asked what he did before reading *On the Banks of Plum Creek* (Wilder, 2004) and he reported that he looked at the title, author's name, and pictures and drew from his prior knowledge. Then he went on to say, 'I think it will probably be a really good one because I've read a whole bunch of books by Laura Ingalls Wilder, and it's probably about somebody that's out in the woods or something that's caught in a story or something (Baumann et. al, 1993). It is through statements such as this one that lead researches to believe that Think-Alouds are

vehicles for helping students to acquire control over abilities such as thinking aloud while reading and making predictions.(Baumann, Jones, & Seifert-Kessell, 1993)

How can all readers benefit from the Think-Aloud procedure?

As teachers lend their expertise in Think-Aloud to their students they will begin to take ownership of the strategy and apply it to their own reading. The Think-Aloud strategy helps students to understand that reading should make sense. As Think-Aloud are implemented into the reading content of the curriculum over a period of time, children will then begin to move beyond literal decoding to comprehending the global meaning of the text. Because of this, they also learn how to decode text using a variety of strategies. Readers will also begin to utilize particular strategies when reading different types of text. Children who are able to reflect on whether or not comprehension is occurring and employ, as necessary, strategies such as self-questioning, predicting, and verifying, retelling, rereading, or withholding judgment and reading on to clarify meaning are likely to understand, interact with, and retain information contained in written texts (Baumann, Jones, & Seifert-Kessell, 1993).

Highly skilled readers use similar thought processes before, during, and after reading. They adjust a reading goal according to their level of prior knowledge, think strategically, follow their intentions to the end of a passage, monitor their comprehension, and reflect on an author's purpose within the constraints of a particular genre and their own reading objective (Block & Israel, 2004). These readers are able to be flexible with their bank of strategies within a given context. Many less flexible readers will not and cannot perform these skills because they are in need of guidance from the teacher. The teacher must become proficient in modeling these thinking processes. In the end, it is

hoped that all readers should be able to utilize these expert-thinking processes while reading any genre or type of text. (Block & Israel, 2004)

Below average readers over rely on the text, which prevents them from creating a coherent understanding of it. When readers over focus on decoding they tend to make reading far more laborious than is necessary. On the other hand, there are readers that over rely on their background knowledge. Although they are able to read efficiently and develop a coherent understanding, it may not be the one that was intended by the author. (Wade, 2001) When the Think-Aloud procedure is implemented into the curriculum it can serve as a strong tool for below average students. These students may struggle to find an answer to a direct question from the text that was read or even to make a prediction of what will happen next in the story. It is these readers that have learned to say, "I don't know" in order to have someone else answer the question for him/her. (Wade, 2001)

Readers that are below average often rely on their initial predictions to understand the story structure. They tend to ignore contradictory information that may tell them otherwise. For example, a third-grade student was reading a middle section of a story that read "He leaped atop a sun bleached log breathing the fresh air until his great chest was puffed out tight as a drum." As the student read this selection, he predicted that he would inhale so he could be like a balloon. So that he could fly instead of flying with wings, he could inhale like a balloon." It was from this portion on that he held onto his prediction even though the rest of the text was telling him that Elmo was an animal of the pond and marsh. Just like this student, many other below-average readers are passive and unaware of the meaning of the text when reading. (Walker, 2005)

Research done by Janssen, Braaksma, & Rijlaarsdam (2006) showed that below-average readers focused primarily on story events and tended to view the story from only one perspective. When the Think-Aloud strategy was introduced to the same set of students, most students read a segment of the story, but then started to reread and think aloud in response to what was just read. The process of rereading and thinking aloud happened concurrently. From the research, it was concluded that the below-average readers produced significantly more Think-Alouds per story than average and above average readers when asked to recall events of a story. When asked comprehension questions, the above-average and average readers benefited more with the Think-Aloud procedure. Overall, the performance was enhanced in the Think-Aloud condition of the research because all students benefited in one-way or another (Janssen, Braaksma, & Rijlaarsdam, 2006).

As average and above-average readers become even better readers while implementing the Think-Aloud strategy into their everyday reading, the below average readers are also reaping the benefits of the strategy as well. Think-Aloud procedures can be used as a diagnostic tool for below-average readers by administering passages as listening tasks and that Think-Aloud procedures provide the same information about inferences and comprehension processes that previous studies have found using reading tasks. Using the Think-Aloud procedure as a diagnostic tool would create an opportunity for below average readers to periodically comment about the text he/she is reading. (Janssen, Braaksma, & Rijlaarsdam, 2006).

The errors made by the below average readers in the study mentioned above done by Janssen, Braaksma, & Rijlaarsdam 2006, were most often a result of a failure to make an inference earlier in the passage. The conclusion that average and above average students utilize the Think-Aloud strategy more flexibly in their reading is not warranted (Janssen, Braaksma, & Rijlaarsdam, 2006). The differences are caused by a different response to the titles of stories compared to other parts of the stories (Janssen, Braaksma, & Rijlaarsdam, 2006).

Whether or not a reader struggles is not the purpose of a Think-Aloud. The Think-Aloud strategy aides all of its' readers through the journey of comprehending text that is read. Walker 2002, states that teachers need to teach beyond the model to create a structure that students can consistently follow. Teachers can make the Think-Aloud strategy more concrete by writing down self-statements and using self-evaluation sheets that discuss strategy use. In the end, it is hoped that this process will help students become more aware of a variety of strategies. Research done by Walker 2002, showed that when self-statements and self-evaluation sheets were utilized with the Think-Aloud strategy, all students did significantly better when comprehending any given text.

How does inferencing work with the Think-Aloud strategy to help students comprehend expository and narrative texts?

The selection of reading materials makes an impact on the how the Think-Aloud strategy is utilized. Narrative text is the most popular kind of text used in classrooms (Wilhelm, 2001). However, when students reach the upper grades, narrative text becomes more complex and then poses a new challenge because of the shift in the complexity of vocabulary, story settings, characters, and underlying theme that the story is trying to

uncover (Wilhelm, 2001). As the text becomes more intricate, this may decrease the student's confidence, motivation, and achievement because of their inability to comprehend a more complex text (Wilhelm, 2001). To prevent this from happening it is suggested by Wilhelm (2002) and Laing & Kamhi (2002), that inferencing, a skill that allows readers to go beyond the directly stated story facts to elaborate on those facts and arrive at conclusions, be taught as early as the second grade.

Inferencing is an essential reading skill for students to comprehend a wide variety of texts successfully, not just limiting it to narrative text. This reading skill has been described as central "to the overall process of comprehension" and the glue that cements the construction of meaning (Richards & Anderson, 2003). Young students do not usually generate inferences naturally and instinctively because of other factors such as; vocabulary, syntactic difficulties, and fluency (Richards & Anderson, 2003). Although it may present a challenge for many young readers to inference text, teacher modeling while thinking aloud will enable such students to visualize the process. Teachers can help readers to improve their abilities to infer information by also modeling how to reason, make assumptions, and come to conclusions. In the end, the teacher will be able to lend his or her language and meaning-making strategies to students. (Wilhelm, 2001 & Laing & Kamhi, 2002)

There are two types of inferences that readers can utilize when reading text. Casual inferences require readers to infer the antecedent or consequences of an action. Readers must conclude what caused the problem in the story. Relational inferences require readers to integrate information across sentences. Readers must be able to construe what the character is doing throughout the wealth of information provided by

the related sentences. In nearly every quality children's picture book, emergent readers must infer information from text and illustrations to fully comprehend, enjoy, and connect to the story. (Richards & Anderson, 2003)

A study conducted by Laing & Kamhi (2002) suggested that average readers produced significantly more inferences and had fewer errors than the below average readers. This could be due in part to the fact that inferences serve to unite propositions in a story so that the readers can construct a coherent mental representation of the story. When readers engage in consistent retrieval and maintenance of causal information they are better able to attain this information when asked to comprehend the selection of text that was read. (Laing & Kamhi, 2002)

Expository text, unlike the narrative format, makes up the bulk of what we read. This type of text explains something by definition, sequence, categorization, comparison-contrast, enumeration, process, problem-solution, description, or cause-effect. Such a text uses facts and details, opinions and examples to inform its readers. (Stromso et. al, 2003) Again, inferences are a vital component to reading comprehension in an expository text as well as a narrative text (Wade et. al, 1999 & Stromso et. al, 2003). It is necessary to revisit the idea of Think-Alouds as a means to visualizing the inferencing process. While reading expository text, the reader puts together pieces of information to create a richer understanding of the text (Wade et. al, 1999). When readers add their prior knowledge about the topic at hand to the information the author is providing them they generate inferences. (Stromso et. al, 2003 & Wade et. al, 1999)

While each type of text shares certain characteristics with each other, they make their own demands on the reader through the unique use of structure, devices, features

and conventions. Students need to be educated how to read each type of text as they encounter it if the goal is to create successful readers. It is through thinking aloud that readers can effectively read and comprehend each type of text. (Wade et. al, 1999& Stromso et. al, 2003) A research study done by McMackin & Lawrence 2001, showed that students whom combined the use of the Think-Aloud strategy and inferencing, did significantly better on comprehending both expository and narrative texts. These students used a number of thinking aloud questions to dissect and make meaning from the text. Students who did not perform well, only utilized either the Think-Aloud strategy or inferencing skills. So, it is not defensible that the Think-Aloud strategy will work as a standalone. There are other reading skills that can merely enhance the Think-Aloud procedure.

How can the Think-Aloud procedure be implemented effectively for maximum student comprehension?

The Think-Aloud procedure can be an effective tool for helping students acquire a plethora of comprehension monitoring techniques such as evaluating understanding, predicting and verifying, and self-questioning (Walker, 2005). In addition to these techniques, the Think-Aloud procedure can also be utilized to help students obtain other assorted comprehension strategies such as making inferences, understanding characterization, and constructing main ideas (Walker, 2005). Therefore, Think-Alouds should be integrated into each aspect of the curriculum. When integrated, readers will enhance understanding, build knowledge, and develop insights (Harvey, 1999). These skills will then lead the reader to recall information and make relevant connections to the

literature thus making it a meaningful reading experience (Loxterman, Beck, & McKeown, 1994).

To ensure that the Think-Aloud procedure is effectively implemented into a particular content area the educator should first choose the text for questioning. Choosing a book with pictures that will provoke a variety of questions and limited text will allow for more conversation between students and teacher. After choosing the book, then introduce the Think-Aloud strategy. Students must understand that good readers have their own questions and those questions are the most important ones. When readers ask questions as they read, it keeps them thinking about the words and ideas conveyed in the book. If they come to a point of confusion, thinking aloud will resolve it. After introducing the Think-Aloud procedure, the teacher must model it and mark the text with notes. After reading a portion of text the teacher will ask an obvious question and write it down on paper and share it with the class. These notes will then serve as book-marks when reading the book again or the following year. After modeling, then allow for students to have guided practice using the Think-Aloud strategy during the reading. In the end, it will develop into a lively discussion. (Harvey, 1999) When the Think-Aloud strategy is implemented effectively into all the content areas, students will be able to build comprehension, decoding skills, vocabulary, and fluency (Block & Israel, 2004).

Baumann et. al (1993) conducted a study where they implemented ten Think-Aloud group lessons as the students were taught to act like reporters. These ten lessons were centered around a different metacognitive comprehension skill. The lessons and skills were Self-questioning, Sources of information, Think-Aloud introduction, Think-Aloud review and extension, Predicting, reading, and verifying, Understanding unstated

information, Retelling a story, Rereading and reading on, and Think-Aloud/comprehension monitoring application. The lessons introduced in the previous research, allowed teachers to introduce and model the Think-Aloud strategy in the beginning lessons, but towards the end of the Think-Aloud group lessons, students were taking ownership and using it their own reading. As students take ownership of this reading strategy, what happens to the social aspect of learning?

How can Think-Aloud and social interaction complement each other?

The discourse between teachers and students in a more traditional classroom setting can be described as teacher dominated. The reason behind this description is because of the initiation-response-evaluation sequences in which teachers initiate talk, students respond by providing answers, and teachers evaluate student responses. A controlled framework such as this limits opportunities for students to assume any power in the classroom. It is through the process of thinking aloud that will allow for students to break down the controlled framework and build upon social interaction. (Kucan & Beck, 1997).

The current efforts to engage students in constructing meaning from text in collaborative discussions seem to indicate a new direction for thinking aloud research, one in which social interaction assumes a role of extreme importance (Kucan & Beck, 1997). Social interaction can provide opportunities for students to develop their Think-Aloud strategies. The inner dialogue, which coordinates thinking, continues to develop through learning that is mediated by more informed others who utilize the Think-Aloud strategy. Social interaction sets into motion so that students can verbalize what is being thought as they make meaning from the text and illustrations (Walker, 2005). On the

other hand, thinking aloud also promotes social interaction. Thinking aloud invites students to assume more authority and responsibility in classroom discourse through a variety of participation structures in which talk goes on between students and teachers, students and students, and whole classroom discussions. These opportunities allow students to understand the processes in which knowledge is constructed and not feel as though their thoughts should be kept to themselves. As discussed earlier, one such way that this can be done is through the use of Think-Alouds.

When the Think-Aloud strategy is implemented into the classroom over an extended period of time continuously, student initiated and peer-led discussions will begin to evolve. The Think-Aloud process initiates student and peer-led discussions in order to resolve cognitive conflict that arises as students try to make meaning from the text. This in turn will create more opportunities for greater amounts of verbalization in both the quality and quantity of discourse (Kucan & Beck, 1997). Kucan & Beck (1997) suggested that students work with partners, taking turns reading orally, and thinking aloud in order to increase social interaction within the classroom.

Limitations of the Think-Aloud strategy

The Think-Aloud procedure has certain limitations. One limitation with studies that advocate Think-Alouds to increase comprehension is that they often do not consider the possible effect of text difficulty. For example, Caldwell & Leslie (2003) performed a study on comprehension and how it was measured. The comprehension differences in retelling or answering questions that were evident after both independent reading and think-aloud reading were possibly due to the difficulty level or the structure of the text. Comprehension differences that occurred only after think-aloud reading could have

reasonably been attributed to the think-aloud process. Another limitation that involves the Think-Aloud procedure is asking children to think aloud after reading individual sections of text may change their strategies and the meaning that they derive from the text. Also for students who are less capable of thinking about their own thinking and reporting on it, the Think-Aloud procedure may actually underestimate their knowledge and abilities. (Wade, 2002) Even though these limitations were encountered, Think-Alouds have a variety of advantages over other types of verbal reporting (Wade, 2002).

Limitations of the Literature Analysis

While searching for research studies to discuss in the literature analysis, it was difficult to find a great deal of information that I could utilize because much of it was not primary resource material. The research material that I finally decided to utilize did not focus on the lower elementary grades, which hindered the quantity of my search results. I chose to utilize a lot of Think-Aloud studies that centered on upper elementary, but it was difficult to write about that student population because I was used to utilizing the Think-Aloud strategy with kindergarten students. I found it very intricate to find authors that utilized a lot of the same information on the Think-Aloud procedure. I wanted to be able to chunk some of my information together, but it was much too difficult due to the lack of accessibility and availability of primary resources.

Recommendations

The following sections of this literature analysis discuss several items. The first discusses how the findings of this paper can be applied specifically to student practices. The second discusses the application to teacher practices. The third discusses the use of future research and where this research would be a good fit in order to further learning

about the think-aloud procedure and how it affects reading comprehension for all readers. The last section discusses how future professional development for school districts and the curriculum may be impacted by findings of the research.

Student practices.

First, my research has revealed that it is critical to allow students to interact and collaborate with one another when thinking aloud. In doing so, it will increase the quality and quantity of discourse in the classroom. While this discourse is happening, it gives students the opportunity to teach and guide one another through the think-aloud process. Students may learn the strategy more effectively if taught by another peer because they may be able to bring it down to his/her level of learning.

Teacher practices.

While analyzing the current research, it was discovered that teachers need to model the Think-Aloud procedure in different contexts. So much of thinking aloud is done in the same rigorous routine and with the same materials, but what teachers are not understanding is that students need to be able to view it being modeled in different content areas and with different genres of texts. This variety of modeling will allow students to feel more comfortable taking ownership of the strategy and make it their own.

Secondly, throughout my research, it was discovered that teachers need to incorporate a variety of text to utilize the Think-Aloud strategy including those such as narrative and expository texts. Each of these texts is composed in such a way that they contain different elements that make thinking aloud a vital strategy to comprehend what is behind the text. While comprehending these types of text, inferencing, a skill that helps readers to make connections between what is stated in the text and their own prior

knowledge, should be taught within the Think-Aloud procedure to make it a highly effective comprehension tool.

Future Research.

There is much research needed in this field of research. Research that compliments this decade in the Think-Aloud process would help teachers focus on new findings that could benefit their students. There is very little research on the various content areas that teachers can implement the Think-Aloud procedure and how it affects his/her reading comprehension. Future research needs to be done on how educators of all content areas can utilize and implement this procedure in an effective manner. When searching for materials to utilize for this literature analysis, there was a scarce amount of information on the lower elementary grades. Since reading instruction is so crucial during a students' lower elementary years, it would be feasible to have more research done on lower elementary grades.

Professional Development.

Depending on future research, the implementation of the Think-Aloud procedure may seriously impact current reading comprehension strategies. If Think-Alouds are to be infused throughout all the content areas, then all educators would be in need of professional development of this nature. This professional development would guide educators of all the content areas in implementing the Think-Aloud procedure effectively. Both educators and students would benefit greatly especially knowing that the professional development was a district effort rather than a self-contained school effort.

References

- Baumann, J., Jones, L., & Seifert-Kessell, N. (1993). Using think alouds to enhance children's comprehension monitoring abilities. *The Reading Teacher*, 47, 184-193.
- Block, C.C., & Israel, S. E. (2004). The ABCs of performing highly effective think alouds. *The Reading Teacher*, 58, 154-167.
- Caldwell, J., & Leslie, L. (2003). Does proficiency in middle school reading assure proficiency in high school reading? The possible role of think-alouds. *Journal of Adolescent and Adult Literacy*, 47, 324-335.
- Harvey, S. (1999). Questioning the text. *Instructor*, 11, 16-22.
- Hillman, J. (2003). Reading comprehension: Theories and methods. *The New England Reading Association Journal*, 39, 49-57.
- Kucan, B., & Beck, I. L. (1997). Thinking aloud and reading comprehension research: Inquiry, instruction, and social interaction. *Review of Educational Research*, 67, 271-299.
- Laing, S. P., & Kamhi, A. G. (2002). The use of think-aloud protocols to compare inferencing abilities in average and below-average readers. *Journal of Learning Disabilities*, 35, 436-447.
- Loxterman, J.A., Beck, I. L., & McKeown, M. G. (1994). The effects of thinking aloud during reading on students' comprehension of more or less coherent text. *Reading Research Quarterly*, 29, 353-367.
- Migyanka, J. M., Policastro, C., & Lui, G. (2005). Using a think-aloud with diverse

- students: Three primary grade students experience "Chrysanthemum." *Early Childhood Education Journal*, 33, 171-177.
- Oster, L. (2001). Using the think-aloud for reading instruction. *The Reading Teacher*, 55, 64-69.
- Maria, K., & Hathaway, K. (1993). Using think alouds with teachers to develop awareness of reading strategies. *Journal of Reading*, 37, 12-18.
- McMackin, M. C. (2001). Investigating inferences: Constructing meaning from expository texts. *Reading Horizons*, 42, 117-137.
- Richards, J.C., & Anderson, N.A. (2003). How do you know? A strategy to help emergent readers make inferences. *The Reading Teacher*, 57, 203-206.
- Smith, L. A. (2006). Think-aloud mysteries: Using structured sentence-by-sentence text passages to teach comprehension strategies. *The Reading Teacher*, 59, 764-773.
- Stromso, H. I., Braten, I., & Samuelstuen, M. S. (2003). Students' strategic use of multiple sources during expository text reading: A longitudinal think-aloud study. *Cognition and Instruction*, 21, 113-147.
- Wade, S. (2001). Using think alouds to assess comprehension. *Reading Teacher*, 43, 442-451.
- Wade, S. E., Buxton, W. M., & Kelly, M. (1999). Using think-alouds to examine reader text interest. *Reading Research Quarterly*, 34, 194-216.
- Walker, J.B. (2005). Thinking aloud: Struggling readers often require more than a model. *The Reading Teacher*, 58, 688-692.
- Wilder, L. I. (2004) *On the banks of plum creek*. New York: HarperCollins Children's Books.

Wilhelm, J. D. (2001). Think-Alouds boost reading comprehension. *Instuctor*, 111, 26-28.

Wilhelm, J. D. (2001). *Improving comprehension with think-aloud strategies*. New York: Scholastic Incorporated.